MASS. HS30.2: P96/EDB

UMASS/AMHERST
312066 0361 9089 8

PUBLIC HEALTH FACT SHEET

EDB

Ethylene Dibromide

GOVERNMENT DOCUMENT COLLECTION

Massachusetts Department of Public Health, 150 Tremont Street, Boston, MA 02111 (617) 727-0049 Bailus Walker, Jr., Ph.D.,M.P.H., Commissioner

SEP 22 1986
University of Massachusetts
Depository Copy

What Is EDB?

EDB stands for ethylene dibromide, a chemical used in the United States since 1948 as an agricultural pesticide and a gasoline additive. EDB is regulated by the U.S. Environmental Protection Agency (EPA). Applied directly to the soil and sprayed onto stored grain and milling machinery and sometimes onto fresh fruit, EDB protects against insect infestations. EDB was first found to be a strong cancer-causing agent in laboratory animals in 1975. This became an issue of increasing concern when EDB was found in some states' food and water supplies. As a result of these concerns, the EPA banned the use of EDB on soil in September of 1983 and extended this ban to include EDB use on stored grain in February of 1984. As of September 1, 1984, EDB use on citrus fruits will no longer be allowed by the EPA. After September 1, 1984, the only remaining use for EDB in the United States will be as an additive in leaded gasoline.

What Are the Health Effects of EDB on Humans?

As mentioned above, EDB is a strong cancer-causing agent in laboratory animals. It has been shown to cause cancers in test animals at 12 different sites and to lead to genetic defects in their offspring. Many scientists agree that the results of tests on animals should be taken as a warning of possible similar effects in humans. For this reason, exposure to EDB and other cancer-causing agents should be avoided whenever possible.

What Has Massachusetts Done About EDB?

The Massachusetts Department of Public Health has adopted state standards to limit the amounts of EDB allowed in foods sold in the Commonwealth. These standards set limits on the amounts of EDB allowed in certain foods. These limits are:

- Less than 30 parts per billion of EDB in intermediate foods that require preparation and cooking, such as flours, cake mixes, muffin mixes and frozen bread doughs. Preparation and cooking are known to reduce EDB levels by as much as 80%.
- Less than 5 parts per billion of EDB in ready-to-eat foods, such as breads, muffins, fruits, and vegetables.
- No EDB at all in baby and infant foods.

The Department of Public Health will hold public hearings in September of 1985 to solicit public and food industry comment on the implementation of more stringent standards on January 1, 1986. These future standards would require EDB levels to be below 5 parts per billion in intermediate foods and below 1 part per billion in ready-to-eat foods.

How Will Massachusetts' Standards Be Enforced?

The Department of Public Health's Food and Drug Division will administer the new standards and has initiated a comprehensive regulatory program for EDB in the state. The program is composed of testing and monitoring of foods for EDB and coordinated enforcement carried out with local boards of health in each city and town throughout the state. The Department's State Laboratory Institute will test 10-15 representative food samples per week. The Food and Drug Division will continue to work closely with the food manufacturing and retailing industry to encourage compliance with the Massachusetts standards.

Which Products Are Affected by DPH's EDB Program?

All foods sold in Massachusetts are affected by the new regulations. However, only those products tested by the Department of Public Health's State Laboratory and known to have EDB concentrations in excess of the allowable levels mentioned above must be removed from sale. Product testing is done by "lot number" so not every batch of a product line is affected. Retail stores must remove only those products tested by the Department and identified by code or lot number as exceeding state EDB limits.

Should Consumers Be Alarmed?

The amounts of EDB that have been found in foods sold in the Commonwealth should not cause anyone to panic. The danger presented by this type of contamination is from continued long-term exposure. By interrupting this exposure, the Department has been able to minimize risk to the public.

What About Baby and Infant Foods?

No EDB has been found in any of the infant formula products tested to date. Products that have been tested include concentrated, ready-to-use, and milk-free formulas. Traces of EDB (less than 1 part per billion) were found in some dry baby cereals and these products have been removed from sale. Other dry cereals were found to be EDB-free.

While the Department feels that the risk to infants from trace amounts of EDB found in some of the dry baby cereals is probably slight, a non-detectable standard for baby and infant foods is advisable based on the increased sensitivity of babies to carcinogens. DPH will continue to test baby and infant foods to monitor EDB levels in these products. Specific instructions for infant feeding and the introduction of other solid foods should be discussed with the family's pediatrician or primary health care provider.

What About EDB in Citrus Fruits and Products?

Since Massachusetts does not require fumigation of citrus fruits coming into the state, EDB contamination of fruits grown within the United States has not been shown to be a problem and EDB has not been found above allowable levels in citrus fruit juices tested in Massachusetts. Fumigation of imported perishable products before entry into the United States is often required by the U.S. Department of Agriculture, and EDB residues have been found in a few of these products.

Are There Any Foods That Do Not Contain EDB?

Testing by a number of states and the U.S. Food and Drug Administration has not detected EDB in meat, chicken, eggs, cheese, or milk. More than half of the grain-based and fruit products tested in Massachusetts contained EDB in only trace amounts or were EDB-free. Based on Massachusetts' and other states' test results, breads, crackers, and bakery products have been shown to contain either very low or no detectable levels of EDB.

What Can Consumers Do to Minimize EDB in Their Diets?

Adoption and enforcement of Massachusetts' regulations governing EDB should result in minimizing exposure to EDB in food until the goal of an EDB-free food supply can be achieved. For those who wish to further limit their consumption of products that may contain EDB, the Department offers these general guidelines: choose grain products that are organically or naturally grown; and, choose grain products that require longer cooking times at higher temperatures, since preparation and cooking have been shown to reduce EDB levels by as much as 80 percent.

5/84